

Invasive Pneumococcal Disease

CLINICAL CASE DEFINITION

Invasive Pneumococcal Disease (IPD) is defined as *S. pneumoniae* isolated from a normally sterile site (e.g., CSF, blood, joint fluid, pleural fluid, pericardial fluid, etc.). The major clinical syndromes of invasive pneumococcal disease include pneumonia, bacteremia, and meningitis.

CASE CLASSIFICATION

Confirmed: a clinically compatible case caused by laboratory-confirmed culture of *S. pneumoniae* from a normally sterile site.

Case classifications for Drug Resistant *Streptococcus pneumoniae* (DRSP) and Invasive Pneumococcal Disease (IPD) are further described as:

- ◆ **Drug Resistant *Streptococcus pneumoniae* (DRSP)** - Isolates causing IPD for which antibacterial susceptibilities are available and determined to be drug resistant; report in MDSS only as *Strep Pneumo, Drug Resistant*.
- ◆ **Invasive Pneumococcal Disease (IPD)** - Isolates causing IPD which are susceptible, or for which susceptibilities are not available; report in MDSS as *Streptococcus pneumoniae, Inv.*

TRANSMISSION

- ◆ Person-to-person contact via respiratory droplets, either by direct oral contact or indirectly through articles freshly soiled with respiratory discharges;
- ◆ Self-infection in persons carrying the bacteria in their upper respiratory tract

INCUBATION PERIOD

Short, probably about 1 – 3 days.

PERIOD OF COMMUNICABILITY

Unknown; presumably can be spread for as long as organism is present in respiratory secretions.

REPORTING/INVESTIGATION

- ◆ Cases of invasive pneumococcal disease are reportable in Michigan; Report/ensure reporting of case to the Michigan Disease Surveillance System (MDSS). Obtain immunization history information from provider record or MI Care Improvement Registry (MCIR - state immunization registry).
 - Isolates causing IPD from children less than five years of age for which antibacterial susceptibilities are available and determined to be Drug Resistant *Streptococcus pneumoniae* (DRSP) should be reported in MDSS as **Strep Pneumo, Drug Resistant**.
 - Isolates causing IPD which are susceptible, or for which susceptibilities are not available should be reported in MDSS only as **Streptococcus pneumoniae, Inv.**
- ◆ Update the MDSS record in a timely manner with new or additional info as it becomes available. Finalize MDSS record when case investigation is complete.
- ◆ Investigation and public health follow-up is generally not useful and is not recommended.
- ◆ In the event of death, obtain and send copies of hospital discharge summary, death

certificate, and autopsy report to MDCH Immunization Division.

LABORATORY CONFIRMATION

- ◆ Laboratory criteria for diagnosis: Isolation of *S. pneumoniae* from a normally sterile site (e.g., blood, cerebrospinal fluid, or, less commonly, joint, pleural, or pericardial fluid).
- ◆ Serotyping of isolates is encouraged if possible; however, resources are not currently available for serotyping at the state public health laboratory.

IMMUNITY/SUSCEPTIBILITY

- ◆ Susceptibility is universal; protection results from prior infection or immunization.
- ◆ Children are routinely immunized with a multiple-dose series of pneumococcal conjugate vaccine (PCV) which protects against several serotypes of *S. pneumoniae* accounting for the majority of invasive infections.
- ◆ Pneumococcal polysaccharide vaccine (PPV) should be administered routinely to all adults 65 years of age and older (1 dose); there are selected indications for PPV use in younger persons as well (e.g. immunocompromised persons).

CONTROL MEASURES

Not applicable.

LABORATORY PROCEDURES AND CONSIDERATIONS

Not applicable.

